



Malaysian Journal of Social Sciences and Humanities (MJSSH)

Volume 6, Issue 8, August 2021

e-ISSN : 2504-8562

Journal home page:
www.msosocialsciences.com

The Influence of Sustainable Product's Attributes Toward the Willingness to Pay for Sustainable Product

Marlita Rexa Lestari¹, Arfenia Nita¹

¹School of Business and Management, Bandung Institute of Technology, Indonesia

Correspondence: Marlita Rexa Lestari (marlita_rexa@sbm-itb.ac.id)

Abstract

As a result of this growing concern for environmental issues, a new market for sustainable products has emerged, with engaged consumers driving it even further. It influenced the new trend and resulted in new behaviors in their daily lives, resulting in a more sustainable lifestyle. Several studies on sustainability have increased year after year, including sustainable products, which are on the rise. This study aims to determine the contribution of sustainable product's attributes on customers' willingness to pay more for sustainable products, mainly to assist the sustainable industry in developing strategies that correspond with the values of sustainable products and also sustainable product consumer values. This study was carried out using quantitative methods using online surveys distributed to respondents who fit the criteria, had an interest in sustainable products, and live in Indonesia. This study resulted in 204 respondents who have used or intend to use sustainable products, dominated by respondents who live in Bandung and Jabodetabek. To identify and analyze the attributes that influence the willingness to pay more for a sustainable product, the researcher uses Structural Equation Modelling (PLS-SEM) to process the survey findings. The results of this study is the willingness to pay more towards sustainable products significantly affected by eco-label, eco-packaging, and local production. From these variables, local production is the key variable that influences customers to spend extra money for sustainable products. This findings demonstrates that the suggested model contributes to the literature and is valuable for understanding in depth the attributes that motivate potential customers to pay more for sustainable products. As a result, companies can get recommendations on how to establish effective marketing campaigns.

Keywords: attributes, sustainable products, willingness to pay more

Introduction

Based on the UNEP projection, the generation level of MSW tends to increase year to year (UNEP, 2016). While in the United Nations Report of Waste Management in ASEAN Countries, Indonesia became the first producer of Municipal Solid Waste (MSW) in ASEAN with a total of 64 million tonnes per year (UNEP, 2017). Over time, the increasing human population will increase the amount of existing waste. Because the amount of material demand consumed by the community will increase and if this is not managed properly it will have an impact on various fundamental aspects, such as health and the environment (Amirah, 2012), such as blockage of waterways resulting in flooding, marine pollution, the spread of disease, respiratory problems from burning garbage, barriers in the tourism sector (World Bank Group, 2018).

We, as the consumer and/or the producer, have the power to minimize this problem through our consumption and/or production, as mentioned in Sustainable Development Goals number 12: Responsible consumption and production. Based on a survey that was conducted by IBM, from baby boomers until gen z has scored 75% or more toward sustainable/environmentally responsible, it shows us that they care about sustainable responsible in their consumption (IBM, 2019).

A new market for sustainable products has formed as a result of this rising concern toward environmental issues, and engaged consumers have increased it more significantly. The rationale for this is that consumer's active participation is seen as a strategy of promoting for protecting the environment (Shabbir et al., 2020).

Consumers and communities are increasingly purchasing green products (Singh, 2020). Because green products are still in their infancy stage in Indonesia (Alamsyah et al., 2020), companies need to implement marketing strategies such as advertising and taking attributes on green products (Tiwari et al., 2011). It is supported by Jeevandas (2019), that every individual must take a step forward for the environment in order to achieve sustainable development. One of them is green marketing that benefits both the consumer and the market since the green products are beneficial not just to the environment but also to humans. Yazdanifard et al. (2011) stated consumers want to associate themselves with firms that are environmental stewards, therefore if it communicates its commitment to the environment through marketing, sales promotions, and others, it is sure to gain many loyal customers.

However, green products are considered to be more expensive than conventional products due to the production process. That is why the attribute is critical for improving profitability by attracting eco-conscious customers who are willing to pay more in order to support a more expensive manufacturing process (Dubihlela et al., 2016); Crespi 2006). Therefore, it is important for companies to know better what attributes affect the willingness to pay more for green products than conventional products of potential customers, in order to increase the sales of green products.

Literature Review

Sustainable Products

A sustainable lifestyle means prioritizing the use of goods derived from resources that are more environmentally friendly to prevent natural exploitation that should be maintained for the next generation because actually, nature is for them (Danielle, 2019). Sustainable Product is similar to a traditional product, but has a minor negative effect on the environment due to the energy required to make it environmentally sustainable, and has the potential to preserve the environment because it can be recycled and has a range of environmental benefits (Biswas, 2016). This is supported by Moser (2016), that green product is less harmful or not at all harmful to the environment. Green products are becoming increasingly popular nowadays, they come in a variety of forms such as organic veggies and organic fertilizer (Wirth, 2011; Alamsyah 2020).

Willingness to Pay More for Sustainable Product's Attributes

Willing to pay (WTP) is defined as the price a buyer is willing to pay for a given quantity of a good or service. The environmentally conscious buying behavior of customers can significantly affect the market performance of products consequently, there is a strong demand to examine customer preference attributes when they make buying decisions. The customer markets for environmentally friendly goods and services are expected to grow for several years (Anil et al., 1999). Within the present context, consumers' willingness to pay for environmentally friendly products could be perceived as a green purchase intention that reflects an individual's consideration of less pollution and readiness to perform green purchase behavior (Chen and Deng, 2016). There is a huge positive impact of sustainable products on the willingness to pay consumers (Wang et al., 2021). A study by Saravanaraj (2017) shows customer's preference for various attributes of green products, variables that assist respondents to identify products as "green".

Eco-label Attribute

As mentioned by Min et al. (2017), the adoption of eco-labels on items is beneficial since they provide consumers with important information. The researchers mentioned that eco-label preferred groups are willing to pay a premium for eco-labels (Liu, 2017). Eco-labels have the potential to boost consumer's willingness to spend 16-24% extra on a product (Vitale et al., 2020)

Eco-Packaging Attribute

Producers should concentrate on four main variables of green packaging: environment, quality, commodity, and price (Hao, 2019). There are several studies that found most of the participants are willing to pay more for products that use eco-friendly packaging, that is 86% of participants of the study in Sweden (Lindh, 2016), 81% of participants of the study in the United States (Neill, 2016), and 67% of participants of the study in Germany (van Birgelen, 2009).

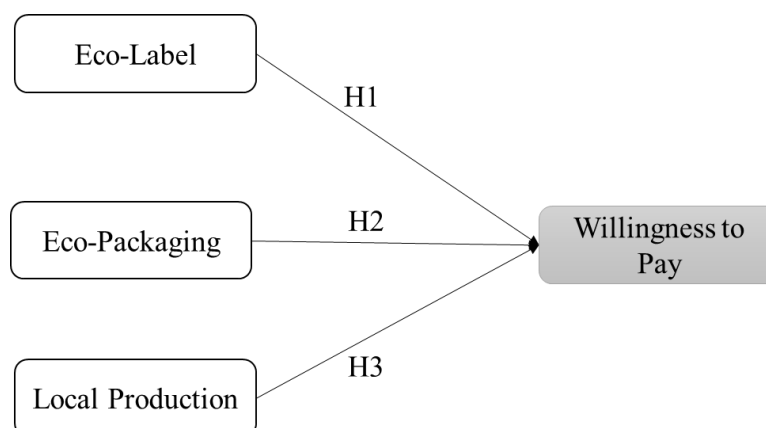
Local Production Attribute

There are several attributes which organic, fair trade, carbon footprint, and location claim that were investigated by Onozaka and McFadden (2010). They also discovered that local products offer the highest willingness to pay value for consumers. Feldmann and Hamm (2015) investigated consumer perceptions and preferences for local products. They discovered that consumers are willing to pay more for local products because they want to support the local community.

Conceptual Framework and Hypotheses

This research is using a customer value creation framework that developed by Smith and Colgate (2007), shown in Figure 1. The following is the relationship between variables: Environmental has direct and indirect relation on willingness to pay more for sustainable products that has Eco-label and Eco-packaging as antecedents. Also Eco-label, Eco-packaging, and Local Production have influences on Willingness to Pay more for sustainable products.

Figure 1: Conceptual Framework



- H1: Eco-label positively influence the willingness to pay for sustainable products
- H2: Eco-packaging has positively influenced the willingness to pay for sustainable product
- H3: Local products positively influence the willingness to pay for sustainable products

Methodology

Research Design

The objective of this research is to analyze the attributes of the sustainable product that are considered the most by the customer that make the customer willing to pay for the sustainable product. The first step is to conduct problem identification that determines the issues that customers faced when they come to purchase some sustainable products. Then the next step is doing a literature review to look deeper for the previous research that relates to the topic. After that, the researcher constructed a questionnaire to be given to the proposing respondents. The data will be gathered using quantitative methods and analyzed using Structural Equation Modeling (SEM). The final step is to conclude the findings and create a recommendation regarding the topic.

Population

The target of this study is people, both men or women, that live in Indonesia who tend or are interested to use the sustainable product, especially on consumer goods. Based on the book titled Marketing Research: An Applied Approach wrote by Malhotra & Birks (2005), the sample size is the number of elements that will use in the study that should be between 200 and 400 respondents for a marketing study.

Sampling Techniques

The sampling technique used by the researcher is non-probability sampling, more precisely purposive sampling because the researcher has determined the criteria of the respondent. Purposive sampling is a non-probability sampling method in which the researcher chooses the elements for the sample based on the evaluation. The researchers believe that by applying the purposive sampling they can produce a representative sample and save time and money (Black, 2010).

Data Collection

An online questionnaire, using a google form, was spread to collect the primary data for this study. The author chose an online questionnaire since it can collect data more quickly, at a lower cost, and with a wider range of responders (Sekaran & Bougie, 2016). The respondents need to fill out all of the questions asked in the questionnaire. The questions ask about the attributes that influence them when they will purchasing the sustainable product. The questionnaire will be delivered using Bahasa Indonesia because the proposing respondents are people who use Bahasa Indonesia as their first language. The researcher uses online messenger and social media to spread their questionnaire.

Table 1. Distribution of Respondent Demographics

Variable	Category	Frequency
Gender	Male	94 (46%)
	Female	110 (54%)
Domicile	Bandung	82 (40%)
	Jabodetabek	60 (29%)
	Others	62 (31%)
Level of Education	Bachelor Degree	151 (74%)
	Master Degree	23 (11%)
	Senior High School	22 (11%)
	Others	8 (4%)

Data Analysis

In this study, Partial Least Square (PLS) was utilized to ensure that the correlation model for each variable in the model was correct. SmartPLS was utilized by the researcher of this study to examine

the association between all variables. To assess the measurement model, there are several steps needed to be conducted, this began with the creation of a conceptual model and data processing using the PLS method and bootstrapping.

Results

Convergent Validity

The average variance extracted (AVE) value of each variable can be used to determine the convergent validity. If the AVE value is more than 0.5, the variables should be accepted and valid (Wong, 2013). In Table 2 below, the AVE values are more than 0.5, also the outer loadings are greater than 0.7, therefore all the items in the questionnaire are valid based on convergent validity.

Table 2. Convergent Validity

Variable	Item	Questionnaire	Outer Loadings	Average Variance Extracted (AVE)	Indicator
Eco-Packaging	EP1	I pay attention to the environmental friendly aspect of the packaging of products I buy	0.791	0.739	Valid
	EP2	I will choose to buy product with green packaging	0.893		Valid
	EP3	I am willing to buy a product with recyclable packaging	0.891		Valid
Eco-Label	EL1	Eco-label makes me more aware of the use of these products	0.868	0.695	Valid
	EL2	Eco-label makes me understand more about these products	0.871		Valid
	EL3	Eco-label makes me more confident in these products	0.831		Valid
	EL4	I would prefer to check the eco-labels and certifications on green products before purchase	0.761		Valid
Local Production	LP1	I prefer to buy products from small local producers in preference to those from large or international producers	0.874	0.783	Valid

	LP2	I always try to look for locally made products during each purchase	0.871		Valid
	LP3	I purchase locally grown to support local business	0.909		Valid
Willingness to Pay More for Sustainable Product	WTP1	Compared with ordinary non-green products, I am more willing to pay extra to buy Sustainable Products	0.877	0.719	Valid
	WTP2	I pay extra for eco-labeled products, i.e., non-polluting products	0.884		Valid
	WTP3	I am proud to use the product with green packaging, even though it is more expensive than the conventional packaging	0.755		Valid
	WTP4	I should be willing to pay more for local product	0.869		Valid

Discriminant Validity

Discriminant validity can also be used to assess validity. It is a measure of a variable's uniqueness in capturing phenomena in comparison to another variable (Hair et al., 2017). Based on Table 3, all the value of Heterotrait-Monotrait Ratio is less than 0.9, therefore we can conclude that there is no issue in the discriminant validity.

Table 3. Heterotrait-Monotrait Ratio

	EL	EP	LP	WTP
EL				
EP	0.699			
LP	0.567	0.719		
WTP	0.701	0.715	0.744	

Indicator Reliability

The indicator reliability test was done to confirm that the construct was stable in relation to how much the objectives wanted to estimate (Urbach & Ahleman, 2010). As seen in Table 4, all of Cronbach's alpha value is higher than 0.6. While the composite reliability values are also higher than 0.7. Therefore, it means that all variables are considered as reliable.

Table 4. Indicator Reliability

Variable	Item	Cronbach's Alpha	Composite Reliable	Indicator
Eco-packaging	EP1	0.831	0.895	Reliable
	EP2			Reliable
	EP3			Reliable
Eco-label	EL1	0.803	0.853	Reliable
	EL2			Reliable
	EL3			Reliable
	EL4			Reliable
Local Production	LP1	0.802	0.874	Reliable
	LP2			Reliable
	LP3			Reliable
Willingness to Pay Sustainable Product	WP1	0.882	0.917	Reliable
	WP2			Reliable
	WP3			Reliable
	WP4			Reliable

Hypotheses Testing and Discussion

Table 5 shows the significant level of each construct. As a result, all of the hypothesis have P-values less than 0.5, and the T-values are above 1.96, therefore those hypotheses are accepted. It means that eco-label, eco-packaging, and local production have direct positive influences on willingness to pay for sustainable products.

Table 5. Hypothesis Testing

Hypothesis	Path Coefficient	T Statistic	P Values	Result
H1= Eco-label positively influence the willingness to pay for sustainable products	0.301	4.766	0	Accepted
H2= Eco-packaging has positively influenced the willingness to pay for sustainable product	0.207	2.933	0.004	Accepted
H3= Local products positively influence the willingness to pay for sustainable products	0.372	5.791	0	Accepted

The eco-label has a positively related to willingness to pay more for the sustainable products, it supported by Crespi et al. (2005) that stated eco-labels could be created to attract consumers with a high willingness to pay and to provide producers with an incentive. Also supported by Liu et al. (2017) that stated consumers believe that eco-labeled products are healthier and more environmentally friendly. Although it has not high effect, however, it is important to include the eco-labels on the sustainable products to attract consumer's trust (Doszhanov and Ahmad, 2015).

While eco-packaging has the lowest effect than other attributes in this research, however, it also has the positively related with the willingness to pay more for sustainable products. This is supported by Hao et al. (2019) that stated the majority of consumers are concerned about the environment and willing to pay more for products with eco-packaging. There are also several findings that show the willingness of consumers to pay more for products that use eco-packaging such as in Sweden, the United States, and Germany (Lindh, 2016; Neill, 2016; van Birgelen, 2009).

Then for the local products that have a higher influential effect than other attributes on the willingness to pay more for sustainable products. This finding is aligned with Onozaka and McFadden (2010) that local products give the highest value than other several attributes in their research. This is also supported by Feldmann and Hamm (2015) that stated consumers are willing to pay more for local products to help the local community. This shows that besides an eco-conscious, consumers also have a social consciousness. They have both concerns about the environment and society.

Conclusion and Recommendations

At present, the awareness of Indonesian people is more aware of the importance of protecting the environment. It was impacted by worldwide trends that result in new daily behaviors that apply sustainable lifestyles. Consumer behavior is being influenced by this new behavior. Sustainable products are seen as healthier for humans and the environment. This condition affects the consumer's consumption to start choosing sustainable products.

This research explores and examines the driving attributes of sustainable products that influence consumers on willingness to pay more for sustainable products. All of the three attributes tested showed a significant value, which means that the three sustainable products attributes (Eco-label, Eco-packaging, and Local Products) have significant and positive value on willingness to pay more for sustainable products.

Based on the research results, there are some recommendations that are able to apply in the sustainable products SMEs, especially for those who will open the business in Bandung and Jabodetabek. It is recommended that businesses should pay attention to attributes of sustainable products that have the greatest impact on customer's willingness to pay more for sustainable products. It will allow them to build a successful marketing strategy that will affect their sales.

This study has various limitations that should be considered in future research. For future research, the attributes should be more varied, since this research only studies some of the sustainable product's attributes. This research is also just conducted in Indonesia that dominated by Bandung and Jabodetabek. Therefore, the researcher recommends for future researchers conduct the studies in other areas. Also, this research studies the general generation, the future researcher might study for the specific generation who has the sustainable lifestyle interest. Future research might also study the other industry since this research is only on consumer goods.

References

- Alamsyah, D.P., Othman, N.A., Chung, W.D., Rahila, N., Ibrahim, W., Udjaja, Y. (2020). The Attributes of Eco-Labels : The Sustainability of Customer Green Behavior.
- Amirah (2012). Pengaruh Timbunan Sampah di Lahan Terbuka Terhadap Kualitas Air Tanah di

- Sekitar Tempat Penampungan Sampah Semetara Kelurahan Batu Ampar.
- Biswas, A. (2016). A Study of Consumers' Willingness to Pay for Green Products. *J. Adv. Manag. Sci.* 4, 211–215. <https://doi.org/10.12720/joams.4.3.211-215>
- Black, K. (2010). *Business Statistics: Contemporary Decision Making*. 6th edition, John Wiley & Sons
- Chen, K., Deng, T. (2016). Research on the green purchase intentions from the perspective of Product knowledge. *Sustain.* 8. <https://doi.org/10.3390/su8090943>
- Crespi, J.M., Marette, S., Cite (2005). Eco-labelling economics: Is public involvement necessary? *Environ. Inf. Consum. Behav.*
- Danielle, C. (2019). What is Sustainable Living?
- Doszhanov, A., Ahmad, Z.A. (2015). Customers' Intention to Use Green Products: the Impact of Green Brand Dimensions and Green Perceived Value. *SHS Web Conf.* 18, 01008. <https://doi.org/10.1051/shsconf/20151801008>
- Dubihlela, J., Peninsula, C., Africa, S. (2016). Customer Attributes and the Repurchase. *Int. Bus. Econ. Res. J.* 15, 163–175.
- Feldmann, C.; Hamm, U. (2015). Consumers' perceptions and preferences for local food: A review. *Food Qual. Prefer.* 40, 152–164
- Hao, Y., Liu, H., Chen, H., Sha, Y., Ji, H., Fan, J. (2019). What affect consumers' willingness to pay for green packaging? Evidence from China. *Resour. Conserv. Recycl.* 141, 21–29. <https://doi.org/10.1016/j.resconrec.2018.10.001>
- Lindh, H.; Olsson, A.; Williams, H. (2016). Consumer perceptions of food packaging: Contributing to or counteracting environmentally sustainable development? *Packag. Technol. Sci.*, 29, 3–23
- Liu, Q., Yan, Z., Zhou, J., (2017). Consumer choices and motives for eco-labeled products in China: An empirical analysis based on the choice experiment. *Sustain.* 9. <https://doi.org/10.3390/su9030331>
- Min, S.H., Lim, S.Y., Yoo, S.H. (2017). Consumers' willingness to pay a premium for eco-labeled LED TVs in Korea: A contingent valuation study. *Sustain.* 9. <https://doi.org/10.3390/su9050814>
- Moser, A.K. (2016). Consumers' purchasing decisions regarding environmentally friendly products: An empirical analysis of German consumers. *J. Retail. Consum. Serv.*, 31, 389–397. <https://doi.org/10.1016/j.jretconser.2016.05.006>
- Neill, C.L.; Williams, R.B. (2016). Consumer preference for alternative milk packaging: The case of an inferred environmental attribute. *J. Agric. Appl. Econ.*, 48, 241–256
- Onozaka, Y.; Nurse, G.; Thilmany McFadden, D. (2010). Defining Sustainable Food Market Segments: Do Motivations and Values Vary by Shopping Locale? *Am. J. Agric. Econ.*, aaq152
- Saravananaraj, M., Pillai, S. (2017). An Analysis of the Green Product Attributes that Entice Green Purchasing- A Study Done in Bangalore City. *Int. J. Asian Soc. Sci.* 7, 199–205. <https://doi.org/10.18488/journal.1/2017.7.3/1.3.199.205>
- Sekaran, U., & Bougie, R. (2016a). *Research Methods for Business (Seventh Ed)*. Chichester: Wiley
- Shabbir, M.S., Sulaiman, M.A.B.A., Al-Kumaim, N.H., Mahmood, A., Abbas, M. (2020). Green marketing approaches and their impact on consumer behavior towards the environment—a study from the UAE. *Sustain.* 12, 1–13. <https://doi.org/10.3390/su12218977>
- Smith, J.B., Colgate, M. (2007). Customer value creation: A practical framework. *J. Mark. Theory Pract.* 15, 7–23. <https://doi.org/10.2753/MTP1069-6679150101>
- Tiwari, S., Tripathi, D.M., Srivastava, U., Yadav, P.K. (2011). Green Marketing - Emerging Dimensions. *J. Bus. Excell.* 2, 18–23.
- UNEP (2017). Summary Report Waste Management 76.
- UNEP (2016). GEO-6 Regional Assessment for Asia and The Pacific.
- Urbach, N. & Ahleman, F. (2020). Structural Equation Modeling in Information Systems Research Using Partial Least Squares.
- van Birgelen, M.; Semeijn, J.; Keicher, M. (2009). Packaging and proenvironmental consumption behavior. *Environ. Behav.* 41, 125–146.
- Vitale, S., Biondo, F., Giosuè, C., Bono, G., Okpala, C.O.R., Piazza, I., Sprovieri, M., Pipitone, V., (2020). Consumers' perception and willingness to pay for eco-labeled seafood in Italian hypermarkets. *Sustain.* 12, 1–13. <https://doi.org/10.3390/su12041434>
- WANG, E. peng, AN, N., GENG, X. hui, GAO, Z., KIPROP, E. (2021). Consumers' willingness to pay for ethical consumption initiatives on e-commerce platforms. *J. Integr. Agric.*, 20, 1012–1020. [https://doi.org/10.1016/S2095-3119\(20\)63584-5](https://doi.org/10.1016/S2095-3119(20)63584-5)

World Bank Group (2018). What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050.